

Appl. No. 10/802,505
Response Dated July 25, 2005
Reply to February 28, 2005, Office Action

Amendments to the Claims

The following listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

40. (Previously presented) A trawl comprising:

a plurality of mesh cells, each mesh cell including at least three mesh bars, at least one portion of at least a first mesh bar in at least one of the mesh cells including:

5 a. a first product strand having a core product strand enclosed within a sheath that resists sliding along the core product strand during assembly and field operations of the trawl; and

10 b. a mechanical connection couples the first product strand forming the first mesh bar to a second product strand forming a second mesh bar of the at least one mesh cell, the mechanical connection including a clamp which encloses at least the slide-resistant, sheathed portion of the first product strand,

15 whereby the sheathed portion of the first product strand disposed within the clamp resists separation of the sheath from the core product strand during trawl assembly and field operations thus

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better preserving design characteristics of the first mesh bar and the trawl.

41. (Previously presented) The trawl of claim 40 wherein the sheath encircling the slide-resistant portion of the first product strand includes a plurality of product strands which both encircle and have a smaller diameter than the core product strand,
5 at least several of the encircling product strands that are disposed within the clamp being sufficiently densely woven that the sheath resists movement relative to the core product strand.

42. (Previously presented) The trawl of claim 40 wherein the sheath encircling the slide-resistant portion of the first product strand includes a plurality of product strands which both encircle and have a smaller diameter than the core product strand,
5 at least several of the encircling product strands that are disposed within the clamp being sufficiently densely woven that the sheath maintains a cross sectional shape of the slide-resistant, sheathed portion of the first product strand during field operations.

43. (Previously presented) The trawl of claim 40, 41, or 42 wherein the mechanical connection coupling the first product strand

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to the second mesh bar includes a first loop formed at an end of
the first product strand, the first loop being formed by two
5 segments of the first product strand that are secured to each other
by the clamp.

44. (Canceled)

45. (Previously presented) The trawl of claim 41 wherein
the core product strand includes a twisted product strand.

46. (Previously presented) The trawl of claim 41 wherein
the core product strand includes a heat-set, twisted product
strand.

47. (Previously presented) The trawl of claim 41 wherein
the core product strand includes a braided product strand.

48. (Previously presented) The trawl of claim 41 wherein
the core product strand includes a heat-set, braided product
strand.

49. (Previously presented) The trawl of claim 41 wherein
the core product strand includes a parallel laid product strand.

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50. (Previously presented) The trawl of claim 41 wherein the core product strand includes a heat-set, parallel laid product strand.

51. (Previously presented) The trawl of claim 41 wherein the core product strand includes a bonding agent.

52. (Previously presented) The trawl of claim 51 wherein the bonding agent is a polymer.

53. (Previously presented) The trawl of claim 52 wherein the polymer is a urethane based polymer.

54. (Previously presented) The trawl of claim 40, 41, 42 or 45 wherein the core product strand has substantially minimum residual torque.

55. (Previously presented) The trawl of claim 40, 41, 42 or 45 wherein the slide-resistant, sheathed portion of the first product strand has substantially minimum residual torque.

56. (Previously presented) The trawl of claim 43 wherein the core product strand has substantially minimum residual torque.

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57. (Previously presented) The trawl of claim 43 wherein the slide-resistant, sheathed portion of the first product strand has substantially minimum residual torque.

58. (Cancelled)

59. (Cancelled)

60. (Withdrawn) A thread comprising:

a. a core product strand; and

b. an encircling sheath having:

i. a plurality of encircling product strands each having a smaller diameter than a diameter of the core product strand of the thread; and

ii. at least one spiraling product strand interwoven with the encircling product strands and having a diameter that is larger than the diameter of each of the encircling product strands.

61. (Withdrawn) The thread of claim 60 wherein the diameter of the spiraling product strand is less than the diameter of the core product strand.

62. (Withdrawn) The thread of claim 60 or 61 wherein the thread is mechanically secured to another object by a clamp.

63. (Withdrawn) The thread of claim 60 or 61 wherein a loop is formed in the thread for securing the thread to another object, the loop being formed by two segments of the thread that are mechanically secured to each other by a clamp.

64. (Withdrawn) A trawl comprising:

a plurality of mesh cells, each mesh cell including at least three mesh bars:

a. at least one portion of at least a first mesh bar in at least one of the mesh cells having:

i. a core product strand encircled by a sheath, the sheath including a plurality of encircling product strands each having a smaller diameter than a diameter of the core product strand; and

ii. at least one spiraling product strand interwoven with the encircling product strands and having a diameter that is larger than the diameter of each of the encircling product strands; and

b. a mechanical connection couples the first product strand forming the first mesh bar to a second product strand

forming a second mesh bar of the at least one mesh cell,
the mechanical connection including a clamp which
encloses at least the first product strand.

65. (Withdrawn) The trawl of claim 64 wherein the
mechanical connection coupling the first product strand to the
second mesh bar includes a first loop formed at an end of the first
product strand, the first loop being formed by two segments of the
first product strand that are secured to each other by the clamp.

66. (Withdrawn) The trawl of claim 65 wherein an end of
the second product strand forming the second mesh bar includes a
second loop, and wherein the second loop passes through the first
loop.

67. (Previously presented) An improved method for catching
fish with a trawl system comprising the steps of:

- a. assembling the trawl system by combining components
selected from a group consisting of a trawl, upper
bridles and frontropes, the trawl including a plurality
of mesh cells, each mesh cell including at least three
mesh bars:

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- 10 i. at least one portion of at least a first mesh bar
 in at least one of the mesh cells including a first
 product strand having a core product strand en-
 closed within a sheath that resists sliding along
 the core product strand during assembly and field
 operations of the trawl; and
- 15 ii. a mechanical connection couples the first product
 strand forming the first mesh bar to a second
 product strand forming a second mesh bar of the at
 least one mesh cell, the mechanical connection
 including a clamp which encloses at least the first
 product strand; and
- 20 b. from a vessel disposed on a surface of a body of water:
 - i. deploying into the body of water as part of the
 trawl system the sheathed, first mesh bar; and
 - ii. propelling at least the sheathed, first mesh bar
 through the body of water.

68. (Previously presented) The improved method for catching fish of claim 67 wherein the sheath encircling the slide-resistant portion of the first product strand is formed with a plurality of product strands which both encircle and have a smaller diameter than the core product strand, at least several of the encircling

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product strands that are disposed within the clamp being sufficiently densely woven that the sheath resists movement relative to the core product strand.

69. (Previously presented) The improved method for catching fish of claim 67 wherein the sheath encircling the slide-resistant portion of the first product strand is formed with a plurality of product strands which both encircle and have a smaller diameter
5 than the core product strand, at least several of the encircling product strands that are disposed within the clamp being sufficiently densely woven that the sheath maintains a cross sectional shape of the slide-resistant, sheathed portion of the first product strand during field operations.

70. (Previously presented) The improved method for catching fish of claim 67, 68, or 69 wherein assembling the trawl system includes forming a first loop at an end of the first product strand by clamping together two segments of the first product strand.

71. (Canceled)

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72. (Previously presented) The improved method for catching fish of claim 67, 68 or 69 wherein the core product strand is formed with substantially minimum residual torque.

73. (Previously presented) The improved method for catching fish of claim 67, 68 or 69 wherein the slide-resistant, sheathed portion of the first product strand is formed with substantially minimum residual torque.

74. (Previously presented) The improved method for catching fish of claim 70 wherein the core product strand is formed with substantially minimum residual torque.

75. (Previously presented) The improved method for catching fish of claim 70 wherein the slide-resistant, sheathed portion of the first product strand is formed with substantially minimum residual torque.

76. (Cancelled)

77. (Cancelled)